

## CLAIMS

1. Device for connection with relative and controlled sealing between a pipe (1) and a ceramic tube (7) comprising:
  - a cylindrical chamber (5) that is attached in a sealed manner to said pipe, whereby one end of the ceramic tube is placed inside said chamber,
  - sealing means (3, 3') that consist of at least two sets of fixtures (3, 3') that are placed in the annular space between the ceramic tube and the chamber,
  - a crosspiece (4) that is interposed between the two sets,
  - compression means (6) of said fixtures,
  - and means for injection (8) of a fluid between the two sets of sealing fixtures so as to apply a pressure differential that is determined on each of the fixtures.
2. Device according to claim 1, in which the end of the ceramic tube is separated from the pipe by a stop-forming part (2).
3. Device according to any of the preceding claims, in which said chamber comprises a double wall that defines an inside space (19) in which a coolant circulates.
4. Device according to claim 3, in which said inside space communicates with space (9) between fixtures.
5. Device according to any of the preceding claims, in which the chamber is made of refractory steel with a high heat resistance.

6. Device according to any of the preceding claims, in which the ceramic tube is made of sealed ceramic, such as: silica-alumina, mullite, alumina, zirconia, or silicon carbide, and preferably silicon carbide.
7. Device according to any of the preceding claims 2 to 6, in which the stop part consists of a compressed silicate-type material that is reinforced by fibers that have a compression rupture strength that is less than that of the ceramic tube and that of the cylindrical envelope.
8. Device according to any of the preceding claims, in which the sealing fixtures consist of silico-aluminous-, alumina-, zirconia- or graphite-type fibers.
9. Device according to claim 8, in which the fibers of the fixtures are impregnated with a ceramic material or a metal material.
10. Device according to one of claims 1 to 7, in which at least one of the sealing fixtures consists of ceramic powder.
11. Device according to any of the preceding claims, in which said fluid is water vapor.
12. Device according to one of the preceding claims, in which said pipe is a tube that is identical to said ceramic tube, and in which the ends of each of the ceramic tubes are placed in said chamber and linked to the chamber by identical sealing means.
13. Method for controlling the sealed connection of the device according to one of claims 1 to 12, in which the following stages are carried out:
  - the pressure difference between the reagent that is present in the pipe and said fluid is measured,

- the pressure difference is adjusted to keep a flushing leakage toward the inside of the tube.
14. Application of the device according to any of claims 1 to 12 to installations of steam-cracking, pyrolysis, catalytic dehydrogenation or vaporeforming.
  15. Application of the device according to claim 14 to a steam-cracking installation in which the reagent has a high temperature, preferably between 600 and 1200°C.